COEUR D'ALENE TRIBE

850 A STREET
P.O. BOX 408
PLUMMER, IDAHO 83851
(208) 686-1800 • Fax (208) 686-1182

REFERENCE:

July 9, 2009

Susan Poulsom
NPDES Permit Writer
EPA Region 10,
1200 Sixth Avenue,
Seattle WA 98101

Dear Ms. Poulsom:

The Coeur d'Alene Tribe Water Resource Program offers the following discussion concerning the City of Plummer Idaho new proposed NPDES permit.

Since 2001 the Coeur d'Alene Tribe Water Resource Program has worked with the city of Plummer to propose water quality goals for the new Plummer Waste Water Treatment Plant (WWTP). The Plummer WWTP discharges wastewater into Plummer Creek which then flows into Chatcolet and Coeur d'Alene Lakes. Stream and lakes are extremely efficient at utilizing nutrients such as phosphorus to grow algae and aquatic plants which can sometimes lead to degradation of water quality. Even with this knowledge the analysis of nutrient utilization in aquatic ecosystems is challenging and often not exact, therefore the (draft) Tribal water quality standards for TAS approved waters utilizes a narrative criteria standard for nutrients which states:

> Nuisance Conditions: Nutrients or other substances from anthropogenic causes shall not be present in concentrations which will produce objectionable algal densities or nuisance aquatic vegetation, result in a dominance of nuisance species, or otherwise cause nuisance conditions.

Realizing the Chatcolet and Coeur d'Alene Lakes already have problems with excess nutrients (causing decreased dissolved oxygen and affecting heavy metals remobilization) the City is seeking to build a plant that both reduces nutrients entering into these waters and ensures continued compliance with future water quality constraints that may be imposed by both EPA and the Tribe. This ultimate goal of reducing the City's nutrient input into the Lake has resulted in the design of a new WWTP featuring phosphorus reduction capabilities. Given that the Tribes standard is narrative (see above) numeric guidance as to how much phosphorus should be allowed to enter the Lake is needed. Originally, the Tribe and City utilized the phosphorus guidelines found in the 1997 Coeur d'Alene Lake Management Plan (LMP). The 1997 LMP goal for the Southern portions of Lake Coeur d'Alene was 25µg/L of total phosphorus (TP). The City's engineers strived to design a WWTP which would meet this goal. Unfortunately the City apparently cannot reach this goal of 25µg/L Total Phosphorus (TP), rather they can only achieve a final effluent concentration of 50µg/L TP.

The previously proposed phosphorus limit of 25µg/L for the new city of Plummer WWTP were based on the nutrient goals outlined in the 1997 Coeur d'Alene Lake Management Plan (LMP). Since the initiation of this WWTP design process (begun in 2001) a new Coeur d'Alene LMP has been developed in which goals for in-lake total phosphorus have dropped from 25µg/L to 9µg/L. Historically it has been, and continues to be, technically difficult to predict what affect the Plummer WWTP discharge will have on the "in-lake" phosphorus concentrations therefore, setting the limit of the Plummer discharge the same as the in-lake goal seemed appropriate, however;

As part of a watershed wide nutrient assessment the Water Resource Program has conducted extensive water quality sampling throughout the Plummer Creek watershed since 2006. Data collected during this effort indicate that like most streams Plummer Creek has an assimilative capacity to sequester phosphorus. The likely mechanisms for this assimilation of phosphorus are biological uptake, adsorption to sediments, and loss to ground water during low flow periods. Data collected indicates that between the current outfall of the existing WWTP to the mouth of Plummer Creek at Chatcolet Lake in-stream phosphorus concentrations can be expected to be reduced by a factor of 3.8 (50/3.8 = 13.15). This means that the 50µg/L TP from the WWTP would be approximately 13µg/L TP entering the lake. While this level of TP is higher than the proposed goal of 9µg/L it is a significant improvement over current levels leaving and leaking from the WWTP and those found in the creek.

The proposed new NPDES permit limits the WWTP to 50µg/L TP throughout the year. Once online the new WWTP will result in at least 1000 pounds less (1100 lbs/yr currently vs. 95lbs/yr proposed) phosphorus entering Lake Coeur d'Alene each year. The new plant will also retire and eliminate the current lagoons which are known to be leaking. The removal of the lagoons coupled with the new permit limits for phosphorus should result in better water quality in both Plummer Creek and Lake Coeur d'Alene. Once the NPDES permit is approved by EPA and the new WWTP is constructed the Water Resource Program and City of Plummer will closely monitor Plummer Creek and Chatcolet Lake in the first 5 years after the new WWTP is operational to determine what concentrations of phosphorus are making it to Lake Coeur d'Alene and if water quality conditions in the stream and lake are being impacted due to this discharge. In the event this discharge is found to have deleterious effects on either Plummer Creek or Lake Coeur d'Alene new discharge limits will be recommended.

We appreciate the opportunity to comment on this proposed permit and welcome further discussion with you and your staff concerning this matter.

Sincerely

Scott Fields

Scott Fields
Water Resource Program Manager
Coeur d'Alene Tribe

CC: Philip Cernera, Coeur d'Alene Tribe
Jim Kackman, Coeur d'Alene Tribe
Tim Clark, Mayor City of Plummer
Alan Gay, USKH
Jeff Beeman, USDA